

ABSTRACT

A process for making a polyolefin catalyst component, catalyst and polymer resin is disclosed. Controlling the viscosity of a catalyst synthesis solution with the addition of aluminum alkyl alters the precipitation of the catalyst component from a catalyst synthesis solution. The average particle size of the catalyst component increases with an increased concentration of aluminum alkyl in the synthesis solution. The catalyst component can be produced by a process comprising contacting a magnesium alkyl compound with an alcohol and an aluminum alkyl to form a magnesium dialkoxide. Catalyst components, catalysts, catalyst systems, polyolefin, products made therewith, and methods of forming each are disclosed. The reaction products can be washed with a hydrocarbon solvent to reduce titanium species [Ti] content to less than about 100 mmol/L.